ABSTRACT

Electronically agile optical filtering modules for equalizing light propagation differences in at least two spaced optical beam pathways in the modules. The modules use optical polarization rotation devices that may include acousto-optic tunable filter (AOTF) devices, liquid crystal devices, and magneto-optic devices. Such devices may be subject to polarization dispersion losses (PDL) and polarization mode dispersion (PMD) that may be different for when light travel along different light paths through the device. By redirecting light beams back along a different bi-directional path through the devices which may exhibit non-uniform performance across orthogonal polarizations, PDL and PMD may be reduced.